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Title of Hearing: Developing Biomass Potential—Turning Hazardous Fuels Into Valuable Products

FUELS FOR SCHOOLS PROGRAM

My name is Tom Coston. I'm from Hamilton, Montana and I represent the Bitter Root Resource Conservation and Development Area, Inc. (RC&D). I want to talk about "Fuels for Schools", the name coined for a program which advocates using forest biomass as fuel to fire boilers to heat schools and other public buildings.

As all of you know, the past three summers have been severe wildfire seasons, particularly in the West. In 2000, Montana was perhaps the hardest hit and the Bitterroot Valley was the epicenter of that fire activity. Over half a million acres burned, along with many homes and other structures. Many others had fire at their doorstep and were saved by tremendous effort by fire crews and at great expense to the taxpayer.

This did, however, create an awakening of the need to do something to reduce the threat of future fires, such as removing enough of the fire hazardous material to make fires more manageable. We are talking about all land ownership, particularly those along the wildland-urban interface, a term we never heard before this. Many people and many land ownerships moved in the direction of fire hazard reduction.

The immediate problem was what to do with the large volume of logged or otherwise removed material—forest biomass became the term—most of it unmerchantable from a forest products point of view.

In our area the U.S. Forest Service (Bitterroot National Forest) and the Montana State Forester assumed leadership of an effort to find ways of utilizing this mostly small-diameter material. They enlisted the aid of my organization, the Bitter Root RC&D, a non-government, non-profit organization, whose charter is to assist our communities and elected officials in affecting conscientious natural and human resource decisions.

While effort was made in numerous directions to utilize this material, the one we are talking about today is the use of chipped waste wood as a fuel. We found that in New England, Eastern Canada and the Lake States over the past 20 years there has been an expanding interest in using wood chips to fire boilers to heat buildings—mostly schools. The technology for completely automated systems had been perfected and the bottom line was that heating costs could be significantly reduced—50 percent not being unusual.

Waste, or cull wood, is run through a chipper to produce a usable fuel, then fed by automated systems to a burner and boiler to heat water or make steam. Beyond that point the heating systems are the same as other conventional ones commonly used, such as fuel oil or gas.

The Forest Service Forest Products Laboratory (FPL) of Madison, Wisconsin and the Biomass Energy Resource Center (BERC) of Montpelier, Vermont helped set up a local pilot demonstration project. The Forest Service had funds available for grant assistance under the National Fire Plan. This "partnership" surveyed the local school districts and concluded that Darby was the best site available to demonstrate the operation and benefits of a biomass system for several reasons, such as good community support for the trial and the fact that Darby had the greatest potential to demonstrate savings. The fires of 2000 burned all around Darby, and fuel oil to heat their 3-building campus was costing about $60,000 per year.

You and your colleagues in the Senate made funds available through the National Fire Plan using the Forest Service Economic Action Program. A grant (actually two grants over two years) was assured to fund the $870,000 construction. The agreement called for Darby to monitor and evaluate the operation, including all costs, for a two-year period, and to make the operation of the biomass heating system available for demonstration to the interested public.

The system was fired up last October 30, 2003 and ran successfully throughout the school year. The previous year fuel oil to heat the Darby complex, as said before, cost about $60,000. Actual cost of 640 tons of wood chips for the school year just concluded was $18,500, and about $11,000 of fuel oil was burned in September and October and as backup, bringing the cost to about $29,500. The school year ended two weeks ago and the costs are still being evaluated, but it appears reasonable to expect a full school year of wood chips will cost about $20,000. The school was able to utilize the savings for other priorities in their educational charter.

The State and Private Forestry program of the Forest Service has expanded the Fuels for Schools program to cover the 5-state Northern and Intermountain Region area—Montana, Idaho, Nevada, Utah and North Dakota. The State Foresters manage the program in their respective states. Interest is very high throughout the area and progress is being made.

Assistance grants are available and are now being structured as generally covering 50% of the overall costs of converting to a biomass system with the school (or other facility) financing the remaining 50%. In Montana, low interest state-sponsored “intercap” loans are so far the preferred vehicle. Feasibility studies are done for each candidate with a key ingredient being the ability of the school to pay back its loan over a 10-year period with fuel cost savings. The idea is to make the conversion cash-positive the first year.

In Montana, two other demonstration sites (Victor and Phillipsburg) are now under construction and will be operating this fall. A fourth, Eureka, is securing its funding and hopes also to begin construction.

In Idaho, two communities are committed to going forward with the demonstrations and are well into planning. Ely, Nevada has made a decision to proceed and is also in planning and design. In Bottineau, North Dakota, Minot State University is committed to a demonstration project and is going ahead. All of the states have a number of other sites that are “waiting in the wings.”

The long-range goal of Fuels for Schools is to adequately demonstrate the benefits of biomass systems with the help of assistance grants, and after a reasonable time, to allow the economic benefits of conversion to provide its own momentum, with the institution and the private sector providing financing.

The major obstacle right now is the high up-front cost of a fully-automated biomass system—about $600,000. A rule of thumb has evolved that a school, or other facility, must be heating between 50,000 and 100,000 square feet, and incurring a proportionately large heating bill in order to generate enough savings to make conversion pay out over a 10-year period. Most schools and other facilities are under that size.

Fuels for Schools is currently making a major effort to reduce the capital investment cost. Smaller “semi-automated” systems are available. They are as yet untested in our area. The major differences are smaller boilers, a much smaller boiler building, a “hopper” fuel storage design that must be mechanically filled periodically, and a cost of less than half that of the larger systems.

We plan to identify the best quality of such systems and to install at least one as a demonstration yet this year.

I think we collectively have a good program and, as with most worthwhile things, much work remains to be done. If all four of the Montana sites were presently active, we would only be using some 2,500 tons of material annually—the annual thinnings from about 200 acres. Someone estimated that in our 5-state area hazard reduction treatment annually results in well over 2 million tons of material.

My organization appreciates your support and lauds your effort in passing the Healthy Forests Restoration Act. This hearing demonstrates your commitment to follow through. We would like to see the Act fully implemented, as well as continued support for the Economic Action Program funds which have enabled our program to go forward.

We are grateful for your invitation to appear here and if there is any way we can assist in furthering this

effort, would appreciate being called upon.

If you have questions, I would be pleased to respond to them.